

Workshop Agenda: Non-CO2 and Arctic Climate Impacts

Goddard Institute for Space Studies, Columbia University, 2880 Broadway, NYC

Goal of Workshop

- Examine what is understood about the role of non-CO2 pollutants in the Arctic, identify what additional research is needed to better describe and quantify impacts and what further information will be needed to support a dialogue with policy makers about strategies to abate the influence of non-CO2 pollutants.

Day 1: Monday January 8

8:30-9:00: Registration, coffee

9:00 –9:30: Welcome and expectations of the meeting.

Why the Arctic is at risk and why non-CO2 pollutants could be making a big difference?

Jim Hansen, Director, Goddard Institute of Space Studies

Agenda review and structure of the meeting

Armond Cohen and Ellen Baum, Clean Air Task Force

9:30 -10:00 Deposition: Black Carbon, Report from the Field. What we know from 2006 field season BC and albedo measurements from Canadian and Greenland measurements.

Antony Clarke, University of Hawaii, Steve Warren and Tom Grenfell, University of Washington

10:00 – 10:15: Other BC albedo effects snow measurements

Terje Bernsten, CICERO

10:15 -10:45: Discussion

10:45- 11:00: Break

11:00 -11:15: Trends in chemical species, scattering, and absorption

Trish Quinn, NOAA/PMEL

11:15 – 11:30: Arctic haze, biomass burning and BC

Andreas Stohl, Norwegian Institute for Air Research

11:30 – 11:45: High summertime aerosol burden in the Arctic: sources and radiative effects

Moses Iziomon, Dalhousie University

11:45 – 12:15: Discussion

12:15 – 1:15: Lunch

1:15 -1:30: Impacts of Aerosols on Clouds and Precipitation Processes, State of the Science

Ann Fridlind, GISS

1:30 – 1:45: Trends in wet deposition, from the AMAP Arctic Monitoring and Assessment Program

Lars Hole, Norwegian Institute for Air Research

1:45 -2:00: Polar haze: Arctic haze and winter warming

Tim Garrett, University of Utah

2:00 – 2:15: Tropospheric Ozone: Contribution to Arctic Warming

Drew Shindell, GISS

2:15 – 2:30: Reducing tropospheric ozone with methane controls: Impacts on Arctic radiative forcing

Arlene Fiore, NOAA/GFDL

2:30 – 2:45: Plans for the NASA/ARCTAS aircraft mission for spring/summer 2008

Jim Crawford, NASA

2:45 -2:50: Plans for NOAA mission

Chuck Brock, NOAA

2:50 – 3:00: Discussion

3:00- 3:30: Break

3:30 -4:30: What do the models tell us? Identifying the difference between transport to the Arctic and deposition.

Led by Dorothy Koch, GISS

Sunling Gong , Environment Canada, Atmospheric Science and Technology directive

Mark Flanner, UC Irvine

4:30 – 5:30: Discussion

6:00: Reception and Dinner, Faculty Room, Low Library

Day 2: Tuesday January 9

9:00 – 9:15: Assessing source areas of pollutants from studies of fly ash and charcoal from Svalbard snow and ice

Elisabeth Isaksson, Norwegian Polar Institute

9:15 – 9:30: Black carbon source attribution from collected samples

Dean Hegg, University of Washington

9:30 – 9:45: Atlas of black carbon particles from the Arctic

Nancy Doubleday, Carleton University, Ottawa

9:45 – 10:00: What do we know about sources of black carbon and which are most amenable to reductions.

Tami Bond, University of Illinois Urbana/Champaign

10:00 -10:15 Future emissions from increased shipping in the Arctic

Claire Granier, Service d'Aéronomie/IPSL, Paris

10:15- - 10:45: Discussion

10:45- 11:00 Break

11:00 – 1:00: Discussion: (Led by Joe Chaisson and Armond Cohen, Clean Air Task Force)

1. Do we have the beginnings of a coherent “story” on sources, impacts and solutions?
 - Is there enough evidence to advocate reducing non-CO₂ pollutant emissions to help constrain Arctic snow and ice melting?
 - What is the relative contribution of each non-CO₂ pollutants to Arctic warming and melting? What pollutant emissions reductions would drive the most significant reduction in Arctic warming or melting?
2. What additional research is needed to fill out the story to support policy change?
 - Science (source identification, uncertainty reduction, etc.)?
 - Information to support policy analysis (assessment of control options, economics, etc.)?
3. What would such research cost and what are potential funding sources?
4. Does this group want to continue to interact on this topic, and, if so, how?

1:00 : Lunch: As people’s schedules permit, discussions may continue in the afternoon.